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Date: July, 26th 2018

To: Ted McArthur
ATTN: Danika Carlson, Salmon/Scott River RD
11263 N. Hwy 3
Fort Jones, CA 96032

From: Toz Soto
Fisheries Program Manager/Lead Fish Biologist
Karuk Tribe

RE: **Comments on the Kelley Bar Habitat Enhancement Project EA**

Dear Mr. McArthur

Thank you for the opportunity to comment on the Kelley Bar Habitat Enhancement Draft Environment Assessment. I and other technical staff with the Karuk Tribe have reviewed the Draft EA and hereby present these comments on the behalf of the Karuk Tribe.

We fully support Alternative 2-Proposed Action as it is described in the EA. This scale of floodplain habitat restoration work is long overdue in the Salmon River. Historic mining impacts over the past 150 years including massive amounts of mine tailings on the landscape are still an impediment to recovery of riparian and floodplain fish habitats. Simply put, the alterations to floodplain processes are too great for the river to recovery naturally without some type of mechanical intervention work.

We understand this type of work is difficult to implements due to the complex nature of the work including hydraulic modeling and engineered designs. The project proponents at SRRC have worked diligently with technical staff from the Karuk Tribe during all phases of the project. We believe Alternative 2, the Proposed Action is best alternative in the context of the current Draft Environment Assessment.

Floodplains require complex structures in the form of wood jams, large trees and unimpeded flood benches where new channels can form off channel ponds and flood benches can store sediments and grow more trees. These basic processes must be put back in place using mechanical methods as described in Alternative 2. We believe that a mechanical approach is

needed to reconnect the river with it's floodplain and restore important off channel habitats critical for salmon survival. Alternative 2 is a positive step toward the goal of improving floodplain function on the Salmon River. We understand this type of work has not been done in the Salmon River, but has shown to be successful in other tributaries of the Klamath River such as the Trinity River, Scott River and Seiad Creek.

A highlight of the Kelley Bar Project is the incorporation of ground water monitoring data and connectivity with shallow groundwater along the floodplain. We believe that groundwater provides a stable source of cold-water during the summer months that is more resistant to daily temperature swings seen with surface water that can harm fish. Additionally, groundwater can provide thermal benefits during the extreme cold of winter where groundwater is typically warm enough where fish growth is possible. This is critical for sub yearling Coho Salmon and Spring Run Chinook Salmon whom overwinter in freshwater for one or two winters before migrating to the ocean.

With warming global temperatures, droughts and the continued threat of catastrophic wild fires we believe time is of the essence for recovery of salmon habitat in the Salmon River. The quality of the Salmon Rivers riparian and in-stream habitats are not improving over time due to the large scale geomorphic alterations and loss of floodplain function stemming from the legacy of mining impacts. Warm water temperatures and floodplain loss are the two largest direct threats to salmon in the Salmon River. At Kelley Bar, like many sites along the Salmon River, there are large tailing piles where trees and riparian species are not growing or providing benefits to water quality and fish. The riparian forests that once benefited fish habitat in the Salmon River have been largely converted to rock piles composed of mine tailings where vegetation cannot grow. Shade and protection from heating is critical for ensuring the water quality in the Salmon River is suitable for salmon. We believe this project is a positive step toward recovery of fish habitat and water quality in the Salmon River.

Lastly, we are encouraged by the methodical step wise approach to this project and long term monitoring commitments by the SRRC. The engineering and design work for the project is far and beyond what has typically been done before embarking on a large fisheries restorations project. The project proponents have obviously put ample time and effort into alternative analysis and the decision making process that has resulted in the Proposed Action.

Sincerely,



Toz Soto
Karuk Fisheries Program Manager/Lead Fisheries Biologist
Karuk Tribe Department of Natural Resources